

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A detector assembly powered by mains electricity and an elongate backup
5 battery, the assembly comprising:
 - a ceiling mountable base having: a body defining a downwardly opening socket, a mouth within the socket for receiving a portion of the battery, and a means of connecting to the mains electricity;
 - a detector module having a battery support portion for holding the battery in
10 a vertical orientation, the module receivable by the socket;
 - a quick connection means for mechanically connecting the detector module to the base;
 - a quick connection means for electrically connecting the detector module to the base, the electrical connection supplying power from the power supply means to
15 the module; and
 - a lockout means arranged to prevent operation of at least the mechanical quick connection means when no battery is installed within the detector module.
2. An assembly as claimed in claim 1 wherein the lockout means comprises:
20 a blocking member pivotally mounted to the module for rotation from a blocking position to a retracted position; and
 - a biasing means for biasing the blocking member into its blocking position when no battery is installed within the detector module.
- 25 3. An assembly as claimed in claim 2 for use with a standard nine volt battery having an end face with a pair of projecting spaced apart snap connectors,
 - wherein the battery support portion comprises a pair of standard upwardly facing snap connectors arranged and constructed to engage the snap connectors of the battery.

4. An assembly as claimed in claim 3 wherein the blocking member comprises an upwardly extending leg joined to a foot, the foot having a battery face engaging portion, the engaging portion located adjacent the snap connectors of the battery support portion,
- 5 wherein the engaging portion is displaced and held down by the face of the battery when the battery is installed thereby holding the blocking member into its retracted position.
- 10 5. An assembly as claimed in claim 4 wherein the biasing means comprises a spring.
6. An assembly as claimed in claim 5 wherein the means of connecting to the mains electricity comprises:
- 15 at least two terminals for receiving electrical wiring.
7. An assembly as claimed in any one of claims 1 to 6 wherein each terminal comprises:
- a body defining a cylindrical recess for receiving a mains wire and defining a stud conductor; and
- 20 a screw threadably received within a tapped hole through the body into the cylindrical recess,
- wherein, in use, the screw clamps the wire in place within the cylindrical recess and power is transmitted from the wire into the body and out through the stud to the module.
- 25 8. An assembly as claimed in claim 7 wherein the quick connection means comprises at least two co-operable pairs of conductors, in use the conductor pairs transmitting power from the base to the detector module, the pairs of conductors each comprising:
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the stud conductor; and

a forked conductor mounted to the module,

wherein the conductors are mutually shaped and constructed so as to provide

5 sufficient mechanical holding strength to support the module against gravity.

9. An assembly as claimed in claim 8 wherein each forked conductor comprises two spaced apart resilient prongs, the prongs biased towards each other to grip the stud.

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10. An assembly as claimed in claim 9 wherein the forked conductors are constructed from phosphor bronze.

11. A detector assembly powered by mains electricity and a backup battery, the assembly comprising:

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a ceiling mountable base having: a body defining a downwardly opening socket, and a means of connecting to the mains electricity;

a detector module having a battery support portion, the module receivable by the socket;

20 a quick connection means for mechanically connecting the detector module to the base;

a quick connection means for electrically connecting the detector module to the base; and

a lockout means having a shutter mounted to the base,

25 wherein the lockout means prevents operation of at least the mechanical quick connection means when no battery is installed within the detector module.

12. An assembly as claimed in claim 11 wherein the battery support portion is arranged and constructed to hold a battery such that it protrudes upwards to engage

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the shutter mounted to the base.

13. An assembly as claimed in claim 12 wherein the body of the base defines an
5 mouth for receiving a portion of the battery.

14. An assembly as claimed in claim 13 wherein the body of the base defines an
aperture positioned adjacent the mouth, the aperture providing a path through
which the mechanical quick connection means can operate.
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15. An assembly as claimed in claim 14 wherein the shutter comprises:
a leg having an upper end and a lower end, the upper end connected to an
upper end of the mouth; and
a foot connected to the lower end of the leg, the foot having a blocking
15 portion, the blocking portion extending over the aperture so as to block the path
through which the quick connection means operates when the shutter is in the closed
position.

16. An assembly as claimed in claim 15 wherein the means of connecting to the
20 mains electricity comprises:
at least two terminals for receiving electrical wiring.

17. An assembly as claimed in claim 16 wherein each terminal comprises:
a body defining a cylindrical recess for receiving a mains wire and defining a
25 stud conductor; and
a screw threadably received within a taped hole through the body into the
cylindrical recess,
wherein, in use, the screw clamps the wire in place within the cylindrical
recess and power is transmitted from the wire into the body and out through the
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stud conductor to the module.

18. An assembly as claimed in claim 17 wherein the quick connection means for
5 mechanically connecting the detector module to the socket and the quick connection
means for electrically connecting the detector module to the socket are a single quick
connection means.
19. An assembly as claimed in claim 18 wherein the quick connection means
10 comprises at least two co-operable pairs of conductors, in use the conductor pairs
transmitting power from the base to the detector module, the pairs of conductors
each comprising:
the stud conductor; and
a forked conductor mounted to the module,
15 wherein the conductors are mutually shaped and constructed so as to provide
sufficient mechanical holding strength to support the module against gravity.
20. An assembly as claimed in claim 19 wherein each forked conductor comprises
two spaced apart resilient prongs, the prongs biased towards each other to grip the
20 stud.
21. An assembly as claimed in claim 20 wherein the forked conductors are
constructed from phosphor bronze.
22. An assembly as claimed in any one of claims 1 to 21 wherein the body is
25 shaped to define a post the inside of which forms the mouth.
23. An assembly as claimed in claim 22 wherein the post has a recess for receiving
a cable tie to facilitate retention of a mains electrical cable.

24. A detector assembly powered by mains electricity and a backup battery substantially as hereinbefore described with reference to and as illustrated in figures 1 to 13.

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25. A detector assembly powered by mains electricity and a backup battery substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings 14 to 15.